Identification of Database Elements for Assessing the Quality of Referrals in Primary Care

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The design of health care information systems is changing rapidly as health care reform evolves. An essential component of this effort is the identification and development of clinical database content that will provide adequate indicators for quality measurement.

One major aspect of this change in health care delivery is an increasingly greater emphasis on Primary Care. The referral decision by primary care providers is one area of concern regarding the quality of care that is unique to Primary Care. Primary Care providers make referral decisions when they decide to send patients to other clinicians who can provide specialized procedures, further diagnostic workup, or treatment beyond the scope of their own practice. The timeliness and appropriateness of this decision should be monitored.

Database development needs to be designed to provide the necessary structure that will support such monitoring. The links between the quality of referral decisions and database content need to be specific. The first step in this specification process is to identify features of referrals that would be quality indicators for further monitoring and that also can be captured electronically.

The focus of this study was to identify such quality features of the referral decision by Nurse Practitioners (NPs) that can be captured in an electronic ambulatory care database. These variables permit the identification of cases that require further quality review. Transaction processing systems can use these variables to develop algorithms for decision support on these quality issues (Aronow, 1993).

Ten Actively practicing NPs in the Salt Lake City area provided 20 Critical Incidents. Each NP was asked: "Please describe an incident in which you had difficulty deciding on whether you should refer a patient to another practitioner, either a physician in primary care or a sub specialist". They were asked to describe the patient, the chief complaint, the event, their goal in interacting with the patient and their analysis of the causes for why the decision was difficult. This format is consistent with Flannigan's (1954) description of a critical incident which should include not only the specifics of an event needed to be captured, but the context and meaning as well.

The 20 incidents were read and independently sorted into categories by two of the authors (CW and VJ) after discussion. The purpose of the categorization was to identify qualities of visits that could be queried in a clinical database.

To establish reliability, the incidents were then rated independently by two faculty members in the University of Utah College of Nursing, one in informatics, and the a other a Nurse practitioner. After revisions, the interrater agreement between the two independent ratings was kappa = .65. Table 1 presents the categories.

Table 1. Referral Categories

Category	Freq
1) Desired treatment is out of the scope of practice of the Nurse Practitioner	2
2) Desired diagnostic procedures are out of the scope of practice of the NP	6
3) The patients problem is not resolving after several visits and attempted treatment	4
4) An initial visit for a relatively serious complaint and the NP is not sure how to diagnose or treat	3
5) The resources are not available within the institution	1
6) The patient does not have resources	2
7) The patient or the patient's family insist on the referral	2

The proposed poster session will use a newly developed ambulatory clinical database, Patient Care Encounter (PCE), in the VA to demonstrate how aspects of these seven quality features can be identified and monitored. For example, the third category has the most potential for inadequate care in terms of appropriateness and timeliness. To monitor this category would involve ongoing identification of records that meet a specified criteria of a certain number of visits within a specified time frame for a single problem by the same providers. These records would be submitted for further quality review. A non resolving problem can be defined for query purposes by the following parameters: 1) name of provider; 2) role of provider (NP, nurse, physician etc.) 3). Purpose of visit, 4). Date of visit, and 5) problem treated at visit. All of these variables are present in the VA's PCE database as it is currently designed.